

**MANUFACTURE OF COMPOUND SEMICONDUCTOR DEVICE**

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**Abstract**

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**PURPOSE:**To achieve a sufficient adhesion strength and at the same time save the amount of gold and tin by forming an alloy of gold and tin on the rear surface of a compound semiconductor element and placing a semiconductor element where the alloy of gold and tin is formed on the mount island of a heated ceramic case and then bounding it.

**CONSTITUTION:**The rear surface of a wafer where main processes such as diffusion and metallization are completed is abraded to a desired thickness, a gold layer 5 is formed on the rear surface by sputtering, and then gold and tin 3 are bonded to it by deposition. Furthermore, a wafer is cut by a dicing saw and then an individual compound semiconductor element 4 is placed on a mount island 2 of a heated ceramic case 1, it is bonded at the same time when gold and tin are melted. Further, wire bonding is performed by a bonding wire 6 to obtain a compound semiconductor device, thus eliminating excessive solder and a risk of contact with the wire bonding.

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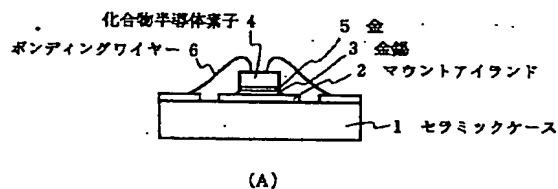
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(54)【発明の名称】 化合物半導体装置の製造方法

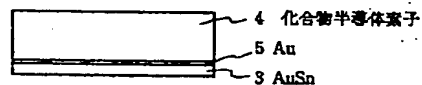
(57)【要約】

【目的】化合物半導体素子をマウントする時に使用するAuSn solderの酸化を防ぐ。

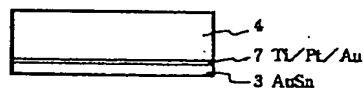
【構成】あらかじめ化合物半導体素子の裏面にAuSnを蒸着しておき、solderを使用しないで素子をマウントする。これによりAuSn solderを使用する時に生ずる酸化が防止出来る。



(A)



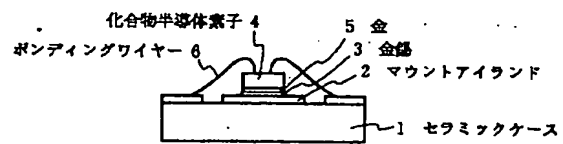
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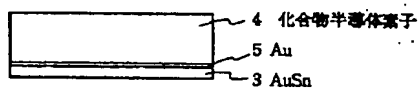
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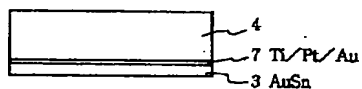
【図1】



(A)



(B)



(C)